WHAT IS CLAIMED IS:

1. A color imaging device comprising an array of light sensitive elements:

a first type of element sensitive to a blue spectral region;

a second type of element sensitive to a red spectral region;

a third type of element sensitive to a green spectral region; and

a fourth type of element sensitive to a blue-green portion of said spectral region.

2. A color imaging device as in claim 1 wherein said light sensitive elements are comprised of a photosensor and a transmissive color filter.

3. A color image sensor comprising:

a substantially planar array of solid state light sensitive elements; and

a filter mosaic made up of individual filter elements which are superposed in one-to-one registry on said light sensitive elements, such mosaic being comprised of:

a first type of filter element transparent to green;

a second type of filter element transparent to red;

a third type of filter element transparent to blue;

a fourth type of filter element transparent to blue-green; and

wherein such filter elements are arranged in repeating patterns in two perpendicular directions throughout substantially the entire imaging area of the sensor.

4. A color imaging device as in claim 3 wherein said pattern is:

R G B B-G

G R B-G B

B B-G R G

B-G B G R

5. A color imaging device comprising:

a first digital camera comprising a first sensor array and a first color filter for filtering all light except light associated with a first spectral region;

a second digital camera comprising a second sensor array and a second color filter excluding all light except that associated with a second spectral region;

a third digital camera comprising a third sensor array and a third color filter for filtering all light except light associated with a third spectral region; and

a fourth digital camera comprising a fourth sensor array and a fourth color filter for filtering all light except light associated with a fourth spectral region.

6. A digital camera comprising:

a sensor array;

a color filter wheel; and

wherein said color filter wheel selectively transmits light associated with four spectral regions.

7. A digital camera comprising:

a sensor array; and

an electronically switchable filter capable of selectively transmitting light from four spectral regions.

8. A digital camera comprising:

at least one dichroic beamsplitter;

a first sensor array which receives light from said dichroic beamsplitter in a first spectral region;

a second sensor array which receives light from said dichroic beamsplitter in a second spectral region;

a third sensor array which receives light from said dichroic beamsplitter in a third spectral region; and

a fourth sensor array which receives light from said dichroic beamsplitter in a fourth spectral region.

9. A digital camera as in claim 8 wherein one of said dichroic beamsplitters is an X-cube beamsplitter.

10. A digital camera comprising:

a first photosensor array;

a first color filter array comprised of a first and second color filters;

a second photosensor array; and

a second color filter array comprised of third and fourth color filters.

11. A color imaging device comprising an array of light sensitive elements:

a first type of element sensitive to a cyan spectral region;

a second type of element sensitive to a magenta spectral region;

a third type of element sensitive to a yellow spectral region;

a signal processing unit which calculate a red, green, blue, and blue-green value from signals to said signal processor from said first, second, and third element.

12. A color imaging device as in claim 11 wherein said light sensitive elements are comprised of a photosensor and a transmissive color filter.

13. A color imaging device as in claim 12 wherein said transmissive color filter for said cyan spectral region is between 400 and 600nm.

14. A color imaging device as in claim 12 wherein said transmissive color filter for said magenta spectral region is between 400 to 500 nm and 600 to 700nm.

15. A color imaging device as in claim 12 wherein said transmissive color filter for said yellow spectral region is between 500 to 700nm.

16. A color imaging device as in claim 11 wherein said red value is calculated from magenta and yellow.

17. A color imaging device as in claim 11 wherein said green value is calculated from cyan and yellow.

18. A color imaging device as in claim 11 wherein said blue value is calculated from cyan and magenta.

19. A color imaging device as in claim 11 wherein said blue-green value is calculated from cyan.

20. A color imaging device comprising an array of light sensitive elements:

a first type of element sensitive to a blue (B) spectral region;

a second type of element sensitive to a red (R) spectral region;

a third type of element sensitive to a green (G) spectral region;

a fourth type of element sensitive to a cyan (C) portion of said spectral region;

wherein said light sensitive elements are comprised of a photosensor and a transmissive color filter; and

wherein said transmissive color filter are arranged in a pattern of:

R G B C
G R C B
B C R G
C B G R

21. A color imaging device as in claim 20 wherein the spectral range of said cyan is 470 to 530 nm.

22. A color imaging device comprising:

a first sensor array and a first color filter for passing only light associated with a first spectral region;

a second sensor array and a second color filter for passing only light associated with a second spectral region;

a third sensor array and a third color filter for passing only light associated with a third spectral region; and

a fourth sensor array and a fourth color filter for passing only light associated with a fourth spectral region.